

TOP SECRET

OUT 59946

Declassification Review by NGA/DoD

P 282114Z  
FM NPIC

1966 SEP 28 21 49Z

29 SEP 1966 25X1

AFSSO PACAF  
AFSSO ACIC  
AFSSO FTD  
AFSSO USAFE  
CNO  
OPCENZEM  
TOP SECRET  
CITE NPIC 8609.

25X1

25X1

SUBJECT: CAMERA INFORMATION FOR MISSION 1035-1.

1. THE MISSION UTILIZED TWO PAN CAMERAS, FOUR HORIZON  
CAMERAS, A STELLAR CAMERA, AND AN INDEX CAMERA.

## 2. CAMERA DATA

| A. MAIN UNITS           | FORWARD | AFT     | STAR HOR  | PORT HOR  |
|-------------------------|---------|---------|-----------|-----------|
| FOCAL LENGTHS (MM)      | 609.602 | 609.602 | FWD 55.00 | FWD 54.96 |
|                         |         |         | AFT 54.95 | AFT 54.95 |
| FILTER (WRATTEN NO)     | 23A     | 21      | 25        | 25        |
| APERTURE                | F3.5    | F3.5    | F8.0      | F6.3      |
| SLIT WIDTH (IN)         | .225    | .175    | 1/100     | 1/100     |
| EXPOSURE (SEC)          |         |         |           |           |
| FILM                    | 3404    | 3404    | 3404      | 3404      |
| RESOLUTION (L/MM)       | 181     | 171     | NA        | NA        |
| B. S/I UNITS            |         | STELLAR | INDEX     |           |
| FOCAL LENGTH(MM) PART 1 | 83.8453 | 38.3036 |           |           |

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|                          |        |         |         |
|--------------------------|--------|---------|---------|
|                          | PART 2 | 84.0195 | 38.3245 |
| FILTER (WRATTEN NO)      | NONE   |         | 21      |
| APERTURE                 | F1.8   |         | F4.5    |
| EXPOSURE (SEC)           | 1.0    |         | 1/500   |
| FILM                     | 3401   |         | 3400    |
| RESOLUTION (L/MM) PART 1 |        |         | 72      |
|                          | PART 2 |         | 71      |

UNIT NUMBER      PART 1 D95/112/113  
                          PART 2 D96/104/116

## 3. LENS DISTORTION (PIN CUSHION) MM

|               |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|
| A. MAIN UNITS | 3    | 2    | 1    | 0    | 359  | 358  | 357  |
| FWD UNIT      | .001 | .000 | .000 | .000 | .000 | .001 | .003 |
| AFT UNIT      | .002 | .000 | .000 | .000 | .000 | .001 | .002 |

|                         |      |      |      |      |
|-------------------------|------|------|------|------|
| B. HORIZON CAMERAS (MM) |      | FWD  |      | AFT  |
|                         | PORT | STAR | PORT | STAR |
| (RADIAL) 10 DEGREES     | .040 | .020 | .030 | .010 |
| 20 DEGREES              | .100 | .070 | .060 | .040 |
| (TANGENTIAL) MAX VECTOR | .025 | .030 | .030 | .010 |

|                              |          |      |       |
|------------------------------|----------|------|-------|
| 4. CAMERA ANGLES             |          | DEG. | MIN.  |
| A. ANGLE BETWEEN PAN CAMERAS |          | 29   | 53.50 |
| B. DEPRESSION ANGLE BETWEEN  | FWD STAR | 14   | 32.7  |
| HORIZON AND PAN CAMERAS      | FWD PORT | 15   | 38.3  |
|                              | AFT STAR | 15   | 15.8  |
|                              | AFT PORT | 15   | 05.6  |

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|                          |        |    |      |
|--------------------------|--------|----|------|
| C. ANGLE BETWEEN STELLAR | PART 1 | 89 | 50.2 |
| AND INDEX CAMERAS        | PART 2 | 89 | 49.0 |

## 5. TIMING MARKS

FREQUENCY MARKS WILL APPEAR ON THE FILM AT A RATE OF 200 CYCLES PER SECOND.

6. IMAGE MOTION COMPENSATION DATA (CYCLE RATE (CPS), GROUND ANGULAR VELOCITY (GAV), AND PASSES WHERE USED).

| REF. LEVEL |       |       | AMPL. LEVEL |       |       | PASSES         |
|------------|-------|-------|-------------|-------|-------|----------------|
| NO.        | CPS.  | GAV.  | NO.         | CPS.  | GAV.  |                |
| 8          | .3223 | .0291 | 3           | .1292 | .0117 | 1D1 THRU 4D2   |
| 7          | .3381 | .0306 | 3           | .1292 | .0117 | 6D1 THRU 9D4   |
| 8          | .3223 | .0291 | 2           | .1424 | .0129 | 14D1 THRU 70D2 |

## 7. PROGRAM TIME DATA

| CAMERA ON TIME |             |    |     |     | PROGRAM ON TIME |          | PROGRAM |
|----------------|-------------|----|-----|-----|-----------------|----------|---------|
| PASS           | (ZULU TIME) |    |     |     | UP RAMP         | DURATION |         |
|                | DAY         | HR | MIN | SEC | SEC             | SEC      |         |
| 1D1            | 20          | 22 | 43  | 00  | 1251            | 36       |         |
| 3D1            | 21          | 01 | 42  | 39  | 1136            | 46       |         |
| 4D1            | 21          | 03 | 18  | 26  | 1434            | 47       |         |
| 4D2            | 21          | 03 | 34  | 27  | 2395            | 35       |         |
| 5D1            | 21          | 04 | 47  | 16  | 1317            | 176      |         |
| 6D1            | 21          | 06 | 16  | 10  | 1207            | 314      |         |
| 7D1            | 21          | 07 | 47  | 20  | 1278            | 268      |         |
| 8AE            | 21          | 08 | 57  | 47  | 60              | 47       |         |
| 8D1            | 21          | 09 | 20  | 22  | 1414            | 61       |         |

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|      |    |    |    |    |      |     |
|------|----|----|----|----|------|-----|
| 8D2  | 21 | 09 | 26 | 19 | 1771 | 44  |
| 9D1  | 21 | 10 | 48 | 34 | 1260 | 45  |
| 9D2  | 21 | 10 | 51 | 59 | 1466 | 70  |
| 9D3  | 21 | 10 | 57 | 20 | 1786 | 54  |
| 9D4  | 21 | 10 | 59 | 45 | 1931 | 201 |
| 14D1 | 21 | 18 | 18 | 11 | 1013 | 44  |
| 16D1 | 21 | 21 | 30 | 37 | 1670 | 38  |
| 19D1 | 22 | 02 | 06 | 33 | 1895 | 39  |
| 21D1 | 22 | 05 | 00 | 05 | 1422 | 221 |
| 21D2 | 22 | 05 | 05 | 36 | 1754 | 110 |
| 22D1 | 22 | 06 | 29 | 15 | 1331 | 168 |
| 22D2 | 22 | 06 | 32 | 50 | 1546 | 108 |
| 23D1 | 22 | 08 | 02 | 58 | 1509 | 51  |
| 23D2 | 22 | 08 | 05 | 43 | 1674 | 140 |
| 25D1 | 22 | 11 | 01 | 40 | 1342 | 41  |
| 25D2 | 22 | 11 | 04 | 28 | 1511 | 83  |
| 25D3 | 22 | 11 | 08 | 29 | 1752 | 77  |
| 27D1 | 22 | 14 | 11 | 56 | 1874 | 84  |
| 30D1 | 22 | 18 | 46 | 59 | 2047 | 66  |
| 31D1 | 22 | 20 | 11 | 40 | 1688 | 99  |
| 32D1 | 22 | 21 | 34 | 09 | 1194 | 57  |
| 36D1 | 23 | 03 | 39 | 58 | 1375 | 69  |
| 36D2 | 23 | 03 | 42 | 19 | 1516 | 137 |
| 36D3 | 23 | 03 | 58 | 43 | 2501 | 100 |
| 37D1 | 23 | 05 | 12 | 19 | 1474 | 488 |
| 38D1 | 23 | 06 | 42 | 00 | 1412 | 70  |

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|      |    |    |    |    |      |     |
|------|----|----|----|----|------|-----|
| 39D1 | 23 | 08 | 15 | 45 | 1596 | 150 |
| 40D1 | 23 | 09 | 49 | 37 | 1786 | 122 |
| 41D1 | 23 | 11 | 15 | 01 | 1469 | 35  |
| 41D2 | 23 | 11 | 17 | 24 | 1611 | 70  |
| 45D1 | 23 | 17 | 35 | 06 | 2508 | 44  |
| 46D1 | 23 | 18 | 52 | 06 | 1689 | 79  |
| 47D1 | 23 | 20 | 23 | 44 | 1746 | 91  |
| 52D1 | 24 | 03 | 52 | 48 | 1487 | 226 |
| 52D2 | 24 | 04 | 12 | 03 | 2643 | 53  |
| 53D1 | 24 | 05 | 24 | 21 | 1540 | 487 |
| 54D1 | 24 | 06 | 56 | 47 | 1644 | 94  |
| 54D2 | 24 | 06 | 59 | 56 | 1833 | 95  |
| 55D1 | 24 | 08 | 26 | 41 | 1599 | 151 |
| 56D1 | 24 | 10 | 02 | 02 | 1881 | 100 |
| 57D1 | 24 | 11 | 29 | 36 | 1695 | 40  |
| 58D1 | 24 | 13 | 06 | 31 | 2072 | 81  |
| 59D1 | 24 | 14 | 24 | 31 | 1311 | 42  |
| 60D1 | 24 | 16 | 15 | 50 | 2551 | 98  |
| 63D1 | 24 | 20 | 35 | 53 | 1837 | 34  |
| 67D1 | 25 | 02 | 35 | 32 | 1662 | 47  |
| 68D1 | 25 | 04 | 04 | 11 | 1543 | 202 |
| 69D1 | 25 | 05 | 34 | 51 | 1545 | 124 |
| 69D2 | 25 | 05 | 38 | 18 | 1752 | 146 |
| 69D3 | 25 | 05 | 41 | 59 | 1973 | 147 |
| 70D1 | 25 | 07 | 04 | 50 | 1505 | 269 |
| 70D2 | 25 | 07 | 10 | 49 | 1864 | 91  |

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NOTE: ABOVE DATA IS FOR THE MASTER (FWD) UNIT ONLY. ADD  
12 SECONDS TO OBTAIN START TIMES OF AFT UNIT.

8. TIME CORRELATION (MILLISECONDS)

| PASS | CLOCK TIME | SYSTEM TIME | DIFFERENCE |
|------|------------|-------------|------------|
| 9    | 212341.429 | 37470.8893  | ----       |
| 16   | 252156.355 | 77285.8112  | .004       |
| 24   | 294059.120 | 32788.5722  | .004       |
| 31   | 333926.791 | 72656.2398  | .003       |
| 40   | 381197.488 | 33526.9334  | .003       |
| 47   | 420979.295 | 73308.7379  | .002       |
| 55   | 463118.404 | 29047.8447  | .002       |
| 63   | 508143.860 | 74073.2989  | .002       |
| 71   | 13149.192  | 29549.5416  | .000       |

NOTE: ALL "DIFFERENCE" VALUES ARE PLUS.

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T O P S E C R E T

-END OF MESSAGE-

S/C NOTE: ALSO PASSED

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